

Batty About Conservation

Aimee Turner, a seventh grader at Meyzeek Middle School in Louisville, Kentucky, has science in her blood.

Her father, Mike, is a biologist for the U.S. Army Corps of Engineers. Her mother, Kim, owns a public affairs company that works on environmental restoration projects. Last year when Aimee began considering topics for her sixth-grade science fair project, she started asking about bats. Her parents jumped at the opportunity to take her spelunking in one of Kentucky's many bat caves.

Her father discovered a cave at Nolin Lake in Grayson County where bats were being trapped periodically when lake levels rose and blocked the cave's entrance. He contacted Fish and Wildlife Service biologist Michael Floyd at the Service's Kentucky Ecological Services Field Office to find out more.

The two consulted Traci Hemberger, a bat biologist with the Kentucky Department of Fish and Wildlife Resources, for historical information on the cave. They toured the cave and determined it is used by a large number of gray bats as a summer maternity site where young are born and raised.

Large numbers of bat carcasses in the cave indicated that sustained lake levels may have caused suffocation or starvation of the trapped bats. Subsequently, the Louisville District began to manage lake levels to reduce potential negative impacts to the bat colonies.

This became dinner table conversation at the Turner house, and Aimee decided it was important to determine whether the lake levels were responsible for bat mortality. She visited the cave with her parents before the arrival of the bat colonies to take core samples of the accumulated layers of bat droppings.

She calculated that the cave annually supports more than 10,000 bats, and that seven floods appear to have occurred during the 43-year operating history of the lake. Aimee also discovered that six of the seven floods occurring when bats were present did not reach the dome of the cave where bats roost, but that flooding of the only cave entrance may still have contributed to the loss of more than 70,000 bats by starvation, drowning, and suffocation.

Her research plan included management recommendations that lower summer lake levels and increased dam releases would reduce impacts to gray bats during the maternity colony season. Floyd said Aimee's study "provides important information to the historic knowledge of this gray bat population and will aid in future management and conservation measures at Nolin Lake."

Aimee's project won special recognition from the Louisville Zoo as the best conservation biology project. She finished second in animal sciences in the region and went on to compete in the Kentucky Science Fair competition in March 2007.

And she's already begun research on her seventh grade project. Aimee is eyeing a restoration project on Culebra National Wildlife Refuge in Puerto Rico where environmental contaminants in the coral reefs may be related to the island's past use as a Navy weapons range.

Ambition must also run in the family.

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